

with a compressive strength similar to that of concrete; it is relatively inexpensive to mine; its thermal properties are better than those of many other rock types; it occurs generally in areas of low seismicity. More important, though, salt deposits seem to be free of circulating ground waters and completely isolated from underground aquifers by essentially impermeable rocks. And this situation tends to be preserved because any fractures which might develop are readily healed by plastic deformation of the salt.

In almost the precise centre of the United States, Kansas also has been called "the breadbasket of America". It leads all states in wheat production. Until recently, it has had little involvement with the nuclear age in a direct manner. More than 5 trillion tons of salt rock, called halite, lie under the state. This fact seems to offer a radioactive future for underground Kansas in the years to come.

Meantime, the US Atomic Energy Commission has also begun a series of tests to determine whether shale deposits in western New York State, near West Valley, can be used as a major burial area for radioactive wastes. The site is on a 3,300-acre reservation. Scientists from Oak Ridge National Laboratory, in Tennessee, are conducting the tests. The New York site has been used since about 1961 for burial of atomic wastes primarily in underground storage tanks, but it is believed that burial in the shale deposits would be more efficient and permit storage of larger quantities of waste more safely. The procedure includes drilling a well 5,000 to 7,000 feet deep and "hydraulic fracturing" of the shale rock some 1,500 feet below the surface by pumping 100,000 gallons of water under high pressure down the well shaft. What is unknown at the New York site is just how the shale will react to the fracturing process. An effort to determine the reaction will be done by injecting radioisotopes into the well shaft with the water and then tracing their paths. Protests from neighbours of the New York site have been received by the state health department.

COMMUNICATIONS

Televisionphone

THE first commercial picturephone service was opened recently by the Bell Telephone Service. The picturephone set comprises a scanning camera, a receiving screen, and a telephone unit; it looks like a rather complicated small television set. The design is an improved version of an experimental model which was first tried out publicly in 1964. Although it requires three pairs of wires instead of the single pair needed by a telephone, and extra equipment must also be set up at central offices to transmit the pictures, the signals can travel over the ordinary telephone wires.

The system is more versatile than just a sight-and-sound telephone. The field of view of the picture sent can be controlled by a caller, or the picture can be shut off altogether for privacy. A wider capability will result when the picturephone is linked to company computers to form data sets; these will make it possible to dial the computer and have displayed on the screen any type of information for which it has been programmed.

The service is at present available only in downtown Pittsburgh; local services will be introduced next year

also in Cleveland, Detroit, Philadelphia, Washington and perhaps New York. The first long distance calls will then be possible between Pittsburgh and Chicago, and perhaps also between New York and Pittsburgh or Washington. The service is at present so expensive that only businesses have subscribed; there are only eight firms subscribing, with thirty-eight sets between them. Demand is expected to grow slowly, but mass production should lower prices; Bell expects that 100,000 picturephones will be in use by 1975.

SOCIAL MEDICINE

Drug Abuse in Business

from our New York Correspondent

DRUG abuse may be emerging as a major problem in the business world, according to a study by the New York Chamber of Commerce. The study (New York Chamber of Commerce, \$2), carried out by the Research Institute of America, is an attempt to establish the extent of the problem, to help companies with advice and information on the various types of drugs now in common use, the laws relating to them and the agencies available to deal with them.

A survey of 80 companies, many of them major American companies based in New York, has shown that only five had no incidence of drug abuse on company premises; all five were small and had low employee turnover. The other companies reported that incidence had skyrocketed in 1969, and that more than three times as many cases were expected in 1970. "Many companies believe that what they are seeing now is just a preview of what the situation will be," the study says.

The increase in employment from the hard core of previously unemployed was cited most frequently as the major reason for this growing problem, but, as the study pointed out, the problem is not limited to the poor or to the young. As drug use has become more accepted and more common in recent years, it has affected employees at all social and economic levels.

With an estimated 100,000 heroin addicts in New York City alone, a growing number of people in their twenties and thirties using marijuana, and over 500,000 people in the United States abusing barbiturates and amphetamines, it is not surprising that the abuse of these drugs is overtaking alcoholism as a business problem. Companies point out that drug abuse has resulted in higher personnel turnover, employee thefts, absenteeism, poor work performance, higher insurance rates, and the general increase in taxes needed to handle drug problems.

The turnover due to the release of addicted employees cost one company \$75,000 in 1969. Another company reported a 100 per cent jump in thefts by employees from 1968 to 1969, most of which they felt was due to the increasing number of addicts working for them. Another company found that a company engineer was using the inter-office mail to distribute marijuana.

Most companies have been slow to develop procedures for dealing with drug abuse and have often been caught unawares. The larger companies have responded most rapidly because they already had sophisticated health services with general policies covering mental health and alcoholism and had estab-